

MAGNETIC TAPE

STORES AND READERS

PERFORMANCE IN INPUT-OUTPUT... PROGRAMMING

satisfies buffer storage and data rate

minimum of moving parts —

no tape bulk — no punch wear

indexing eliminates tape skewing and

parallel input signals of 0 volt and -10 volt levels are used. Playback outputs are also bit parallel at essentially the same levels. Solid-state circuits are used throughout and maximum current demand is 0.75 ampere at 120 volts, 60 cps, single phase.

Positive indexing for recording and playback is obtained by a stepping motor with a double-sprocketed drive wheel. Each motor step moves standard double-sprocketed 16 mm tape exactly one character position so that playback always begins at the start of a character recording.

Only four front-panel controls are used in operating



the DS-1 and a special two level "tight-tape" sensor prevents the tape from breaking if accidentally bound. Construction features such as plug-in circuit cards, only three main moving parts, and Trak's widely-acclaimed "basket" type packaging for ready accessibility of all parts, make for simple maintenance.

A FEW CURRENT DIGI-STORE APPLICATIONS

- ACQUISITION, STORAGE AND READOUT OF WEATHER SYSTEM RADIOSONDE DATA.
- SIMILAR HANDLING OF TELEMETRY DATA IN GEOGRAPHICAL CONTOUR STUDIES.
- SINGLE UNIT REPLACEMENT OF BOTH PAPER TAPE PUNCH AND READER IN DATA SET TELEPHONE LINE COMMUNICATIONS.
- TRANSMISSION, ACQUISITION, STORAGE, AND READOUT OF NEWS MEDIA COPY.
- DATA ACQUISITION AND HANDLING IN MISSILE TEST PROGRAMS.
- PRODUCTION AND INVENTORY CONTROL APPLICATIONS.
- DATA HANDLING FOR AIRLINE RESERVATION AND STOCK AND BOND CONFIRMATION SYSTEMS.
- MANY BUSINESS AND OFFICE APPLICATIONS REQUIRING HIGH SPEED HANDLING OF DIGITAL DATA.

EQUIPMENT REQUIREMENTS FOR DATA SET SYSTEMS SIMPLIFIED

In Data Set and similar applications for high volume data processing involving multiple locations, a single DS-1 unit and an IBM Selectric typewriter is a low cost replacement for the more expensive, conventional paper tape system comprised of an I/O device, a tape reformat and tape reader. And important additional savings are realized because a single DS-1 unit enables both transmission and reception of data up to the 2400 bit per second capacity of ordinary telephone lines. Further benefits include: Elimination of the physical handling of tape now required with paper tape systems. Tape reusability. Significantly less space requirement. Greatly reduced maintenance.

DIGI-STORE DS-1 SPECIFICATIONS

RECORDING MEDIUM	16-mm double-sprocketed magnetic tape
READING SPEED	Asynchronous up to 300 characters/sec
WRITING SPEED	Asynchronous up to 300 characters/sec
RECORDING DENSITY	66 $\frac{2}{3}$ ch/inch, 20 characters/frame
RECORDING CHANNELS	Up to 8
MODES	Reading or writing, controlled from front panel or remotely
WRITE MODE:	
INPUTS	Data — 8 levels, parallel; synchronous or asynchronous character rate, 0-300 per sec “0” = -8 to -12 volts “1” = 0 to -1 volt Strobe — Positive pulse, 6 to 8 volts in amplitude, at least 20 μs wide, maximum rise time 10 μs, must accompany each character group; leading edge of strobe must arrive at least 200 μs after data levels are stabilized

READ MODE:	
INPUT	Step command (identical to strobe in WRITE mode) — Positive pulse, 6 to 8 volts in amplitude, at least 20 μ s wide, maximum rise time 10 μ s, must be supplied to request each character read-out; synchronous or asynchronous repetition rate 0-300 pps
OUTPUT	8 levels, parallel, and their complements
	“0” = -8 to -10 volts “1” = 0 to -1 volt Minimum load impedance: 3k
OUTPUT DELAY	Output levels are correct 3 ms after step command (strobe), and remain until next step command
TIGHT-TAPE INDICATION	Switch closure to ground
PACKAGING	Self-contained
WEIGHT	30 lb
SIZE	19 $\frac{5}{8}$ " d x 7" h x 8 $\frac{1}{4}$ " w
POWER REQ., VOLTS	120, 60 cps
CURRENT DEMAND, AMPERES	0.75

BUFFER-STORE SPECIFICATIONS

A Digi-Store Buffer combines two basic DS-1 units. When used in digital communications, it performs the function of a paper tape reperforator-transmitter-distributor.

CODE:	Any code of up to 8 data levels.
INPUT:	Parallel or start-stop serial at any rate to 3,000 wpm (300 characters/sec.).
OUTPUT:	Parallel or serial at any rate to 3,000 wpm, independent of input.
STORAGE CAPACITY:	Up to 40,000 characters on 50 ft. continuous loop.
MINIMUM STORAGE CAPACITY:	Zero. Last input character delivered to output.



TRAK ELECTRONICS COMPANY, INC.

59 Danbury Road • Wilton, Conn. • Tel. (203) 762-5521